Release Notes

MODIS LDOPE Tools – Release 1.3

We are pleased to announce the availability of Drop 2 of the MODIS Land Data Operational Product Evaluation (LDOPE) software tools. These tools were developed by the LDOPE at the NASA Goddard Space Flight Center, for assessing the quality of MODIS Land (MODLAND) products. The tools have been developed with feedback from the MODLAND Science Team (ST) and incorporate the scientific knowledge, experience and insights gained during the substantial MODLAND product development period. They have been distributed in versioned drops within the ST in response to ST bug fix requests and requests for new functionality.

A subset of the LDOPE QA tools is being made available to the MODLAND product user community in three separate drops (1, 2, and 3). This release (1.3) contains Drop 2 of the LDOPE Tools for the Solaris (2.8), Linux (Redhat 7.3), SGI/IRIX 6.4, and Windows operating systems. The Linux (Redhat 7.3) and SGI/IRIX 6.4 versions of drop 1 tools were previously released in December 2002, and the Solaris (2.8) and Windows versions were released in March, 2003. Drop 3 of the LDOPE Tools for Windows, Solaris (2.8), Linux (Redhat 7.3) and SGI/IRIX (6.4) operating systems will be released in January 2004. Several of the tools may also be used to manipulate non-MODLAND HDF-EOS products. The tools are distributed via the Internet from the LP DAAC with full documentation and installation instructions.

The tools are written in C and may be run at the command line or called from scripts and other packages. They are invoked using an UNIX-like command and argument syntax. For details on command syntax see the user guide and the glossary distributed with this release. The following table describes the tools included in this release. For additional details on each of the tools see the user guide or run the tool with the –help option.

Drop 2

Tool Name	Description
cp_proj_param	Copy projection metadata into an HDF file that is defined in the MODLAND Integerized Sinusoidal projection or Sinusoidal projection. The HDF file may then be reprojected using the EDC reprojection tool. This allows reprojection of MODLAND product SDS(s) filtered or masked by LDOPE QA tools or other software.
mask_sds	Mask one of more SDS of a MODLAND product file and output the SDS values at pixels where the mask criteria are met and output fill values elsewhere.
read_pixvals	Read MODLAND product values at specified pixel locations.
read_proj_param	Read the projection parameter information of a L2G/L3/L4 MODLAND HDF-EOS product. This information is needed to project non-MODLAND data into registration with a geolocated MODLAND product.

Drop 1

Tool Name	Description
enlarge_sds	The inverse of companion tool *reduce_sds*. Simulate finer resolution data by pixel replication.
mosaic_sds	Create a spatial mosaic of SDSs from different L3 MODLAND products. Specified SDSs are spatially arranged based either on their geolocation or in a user specified manner.
read_meta	Print the ECS core and archive metadata and SDS attributes of any MODLAND product.
read_l2g	The MODLAND L2G products store one or more L2 observations for each L2G pixel in a series of layers (that reflect the MODIS orbit overpass and swath sensing geometry) in a compressed run length encoded format. This tool reads the L2G format and writes user specified layers to output 2D HDF Science Data Sets (SDSs) that can be read by commercial of the shelf (COTS) software.
reduce_sds	Generate reduced spatial resolution MODLAND product SDSs by sub-sampling or averaging. Handle the MODLAND product no-data and missing values. This may be used to reduce data volumes, and to quickly enable analysis of the different MODLAND product spatial resolutions (250m, 500m, 1km), or to enable comparison with other coarser spatial resolution data sets.

reduce_sds_rank	Several MODLAND products (e.g., MOD43) and related MODIS products (e.g., MOD35) contain multidimensional SDSs. This tool converts multidimensional (3D or 4D) SDS to a series of 2D HDF SDSs that can be read by conventional COTS.
sds2bin	Convert an SDS of any HDF-EOS file to a flat binary image format.
unpack_sds_bits	The MODLAND product per-pixel QA information and other information such as the land-sea mask, logical criteria used by the algorithm, and cloud state are stored in an efficient bit encoded manner. This tool decodes requested bit fields and writes them to 2D HDF SDSs that can be read by conventional COTS.